

1 WHAT IS CLAIMED IS

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1. A device for checking user identification, comprising:

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a calculation unit which calculates a check value by applying a user-specific formula to at least one randomly generated number; and

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a matching unit which checks if the check value matches a user-entered value that is entered by a user in response to said at least one randomly generated number presented to the user.

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2. The device as claimed in claim 1, wherein said calculation unit outputs a fixed number as the check value if the user-specific formula consists of the fixed number.

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3. The device as claimed in claim 1, wherein the user-specific formula includes a variable that is an indication of a time at which said calculation unit calculates the check value.

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4. The device as claimed in claim 1, further comprising:

a control-data unit which stores therein user

1 IDs and user-specific formulas associated with
respective user IDs;
a selection unit which selects the user-
specific formula from said control-data unit in
5 response to a user ID of said user; and
a random-number generating unit which
generates said at least one randomly generated number.

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5. The device as claimed in claim 4, further
comprising a registration/updating unit which updates
one of the user-specific formulas in the control data
15 unit with a user-entered formula only if a user
entering the user-entered formula proves knowledge of
said one of the user-specific formulas by entering said
one of the user-specific formulas.

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6. A method of checking user identification,
comprising the steps of:

25 calculating a check value by applying a user-
specific formula to at least one randomly generated
number; and

checking if the check value matches a user-
entered value that is entered by a user in response to
30 said at least one randomly generated number presented
to the user.

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7. The method as claimed in claim 6, wherein
said step of calculating a check value outputs a fixed

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8. The method as claimed in claim 6, wherein the user-specific formula includes a variable that is an indication of a time at which said step of calculating a check value calculates the check value.

9. The method as claimed in claim 6, further comprising the steps of:

storing user IDs and user-specific formulas associated with respective user IDs in a data storage; selecting the user-specific formula from the data storage in response to a user ID of said user; and generating said at least one randomly generated number.

10. The method as claimed in claim 9, further comprising a step of updating one of the user-specific formulas in the data storage with a user-entered formula only if a user entering the user-entered formula proves knowledge of said one of the user-specific formulas by entering said one of the user-specific formulas.

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1 11. A computer-readable medium having a
program embodied therein for causing a computer to
check user identification, said program comprising:
5 a calculation code unit which calculates a
check value by applying a user-specific formula to at
least one randomly generated number; and
a matching code unit which checks if the
check value matches a user-entered value that is
entered by a user in response to said at least one
10 randomly generated number presented to the user.

15 12. The computer-readable medium as claimed
in claim 11, wherein said calculation code unit outputs
a fixed number as the check value if the user-specific
formula consists of the fixed number.

20 13. The computer-readable medium as claimed
in claim 11, wherein the user-specific formula includes
25 a variable that is an indication of a time at which
said calculation code unit calculates the check value.

30 14. The computer-readable medium as claimed
in claim 11, wherein said program further comprises:
a registration/updating code unit which
stores user IDs and user-specific formulas associated
35 with respective user IDs in a data storage;
a selection code unit which selects the user-
specific formula from said data storage in response to

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1 a user ID of said user; and
a random-number generating code unit which
generates said at least one randomly generated number.

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15. The computer-readable medium as claimed
in claim 14, wherein said registration/updating code
10 unit updates one of the user-specific formulas in the
data storage with a user-entered formula only if a user
entering the user-entered formula proves knowledge of
said one of the user-specific formulas by entering said
one of the user-specific formulas.

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